

19981110 081

NMD Joint Program Office
NMD Program Update to
AIAA/BMDO Technology Readiness
Conference



Cleared For Open Publication, Directorate
For Freedom Of Information And Security
Review, Department Of Defense

3 August 1998

COL Cecil R. Webster, USA
Director, System Test and Evaluation



PURPOSE

**Provide Overview of the Ongoing National Missile
Defense Program to the AIAA/BMDO Technology
Readiness Conference**





NATIONAL MISSILE DEFENSE EVOLUTION

► “Star Wars”

1984

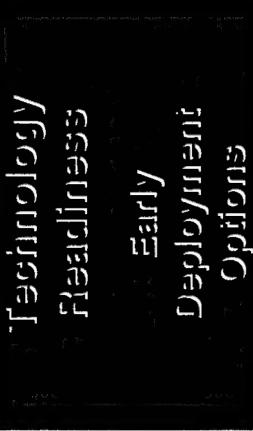


► “3+3” Program

1987



1993



1996



- Program Evolved from “Star Wars” Global Protection Vision

- To Hedge Against Emergence of Rogue Nation Ballistic Missile Threat to U.S.

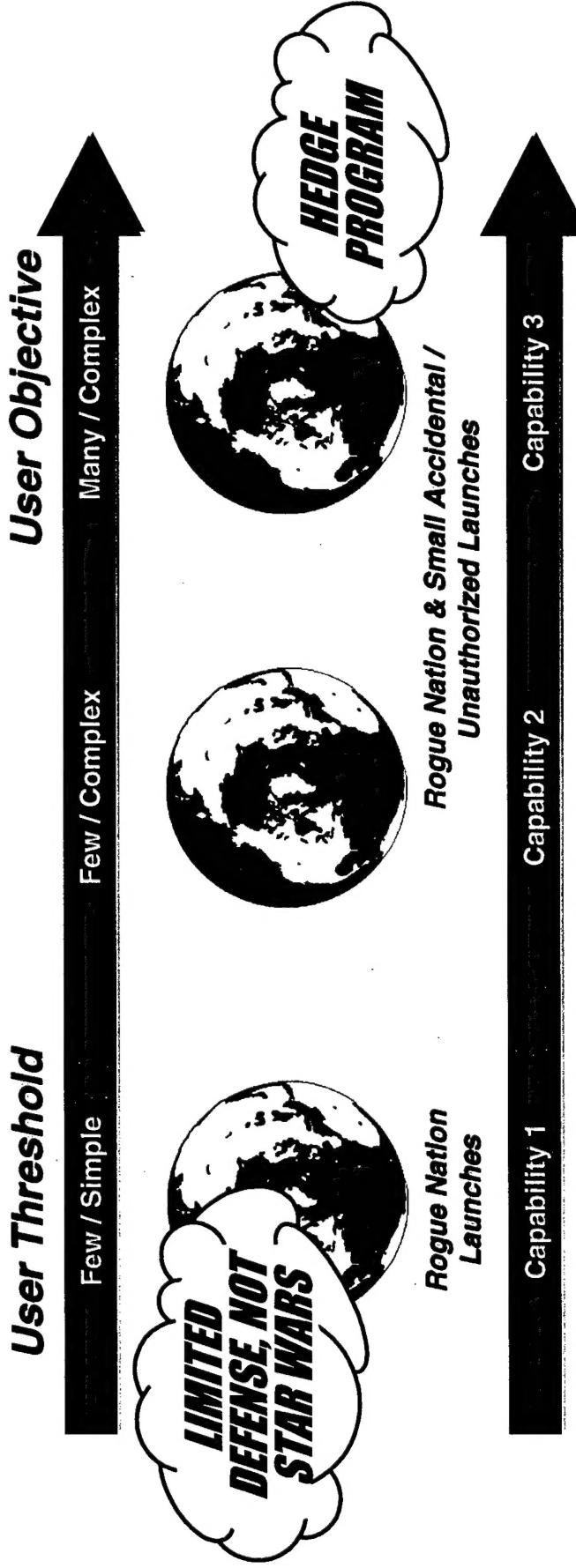


NMD KEY CHALLENGES



- *Uncertain Threat* - Gaining Consensus on Threat Type and when Threat Will Emerge
- *Compressed Schedule* - Conduct FY99 Demo and Deploy if Directed By FY03
- *Treaty* - Compliant During Development; May Not Be for Deployment
- *System Integration* - Integrate Existing National Missile Defense Elements
- *Performance* - Ability to Protect All 50 States

ILLUSTRATIVE NMD THREAT

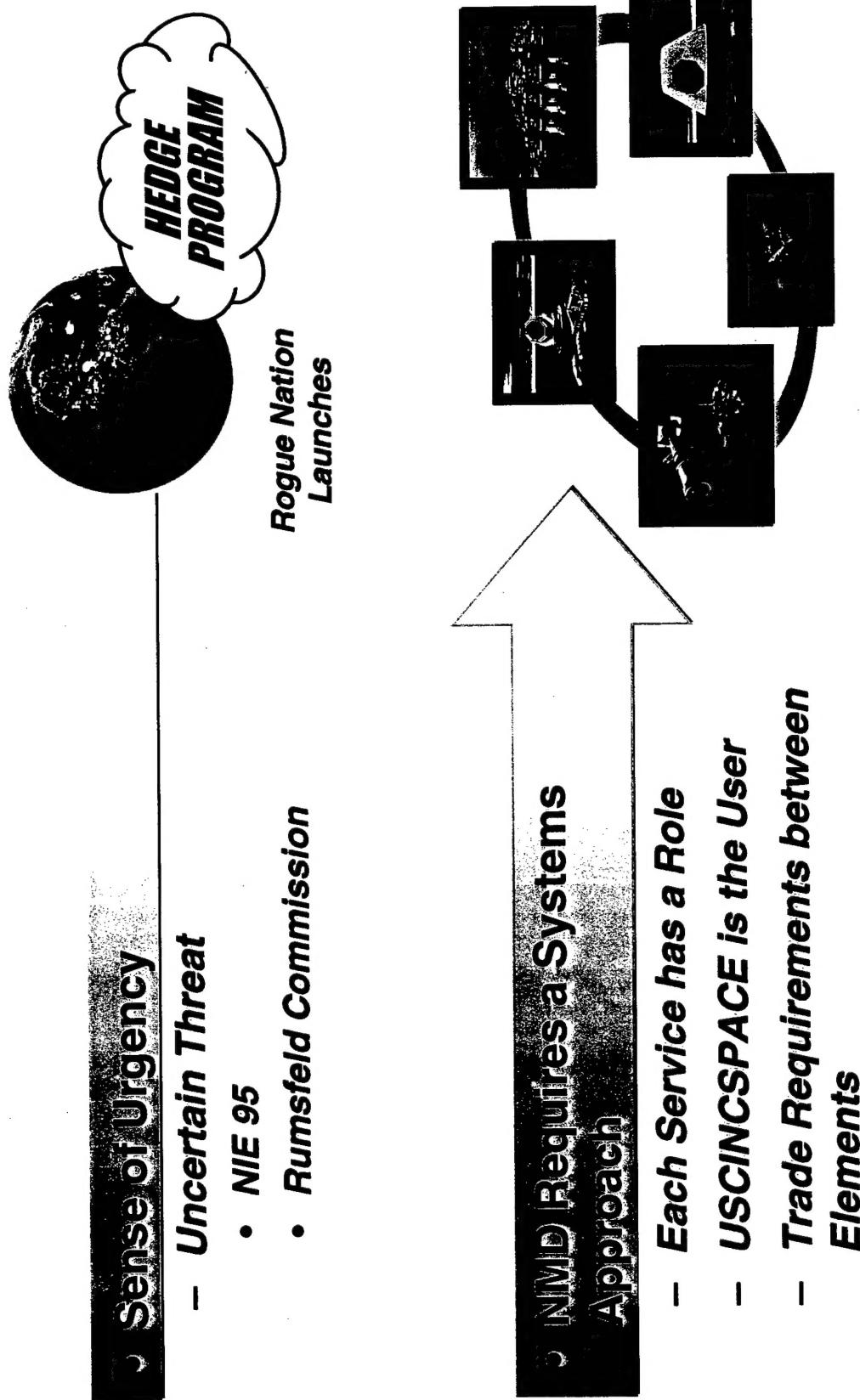


Proliferation Challenges to Missile Technology Control Regime (MTCR)

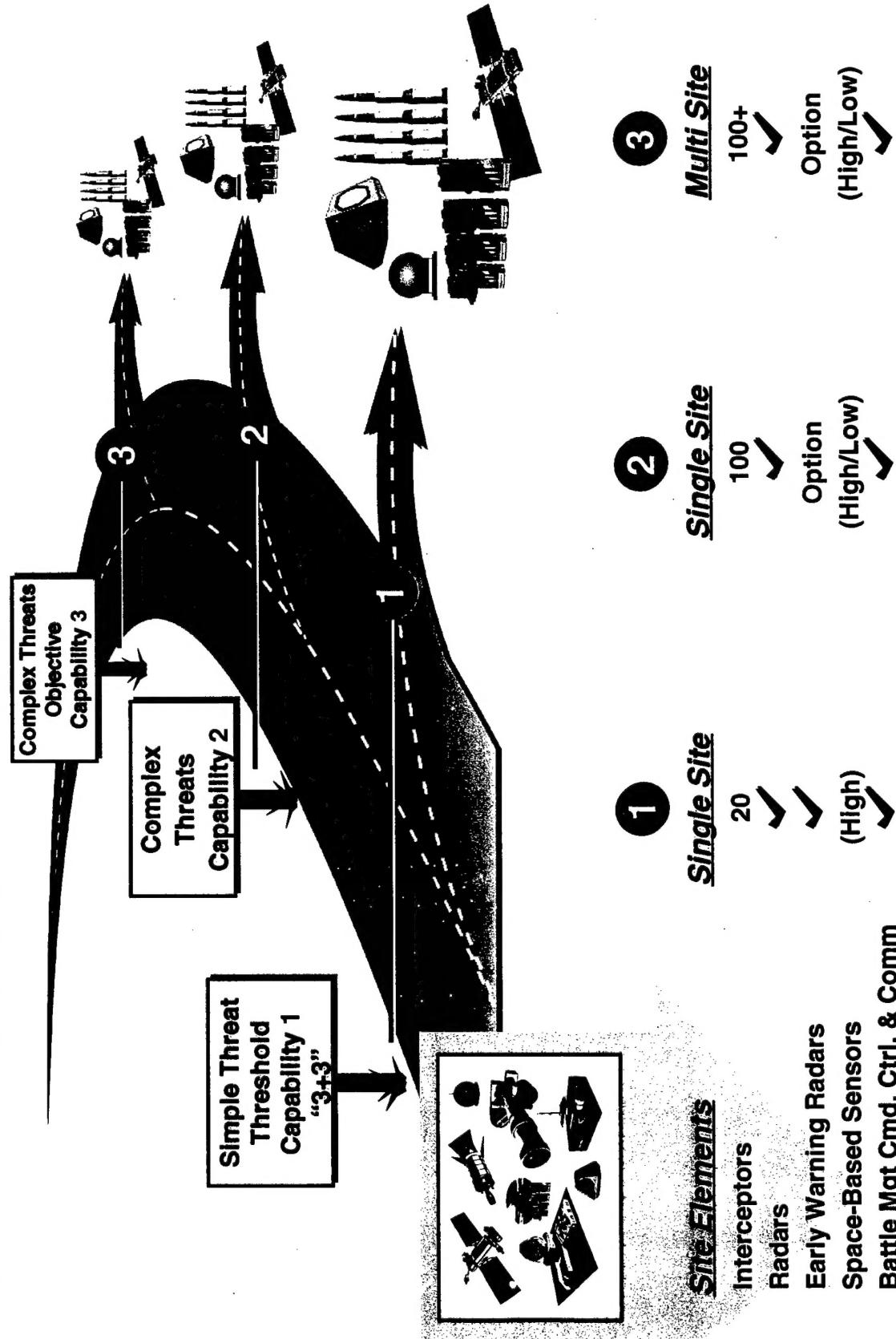
<ul style="list-style-type: none">• CIA Report To Congress (1997)<ul style="list-style-type: none">- Chinese Transfer Guidance Systems & Tools To Iran	<ul style="list-style-type: none">• Rep Weldon's Comments On The Record (26 MAR 97)<ul style="list-style-type: none">- Russian Guidance Systems To Iraq- SS-4 / SSN-19 Components To Iran	<ul style="list-style-type: none">• Senate Proliferation Primer (JAN 98)<ul style="list-style-type: none">- Jordan Seizes 115 Russian Guidance Systems (Nov 95)- UN Divers Seize 30 SSN-18 Gyroscopes In Tigris River
--	--	--



NMD PROGRAM DEFINING ASSUMPTIONS

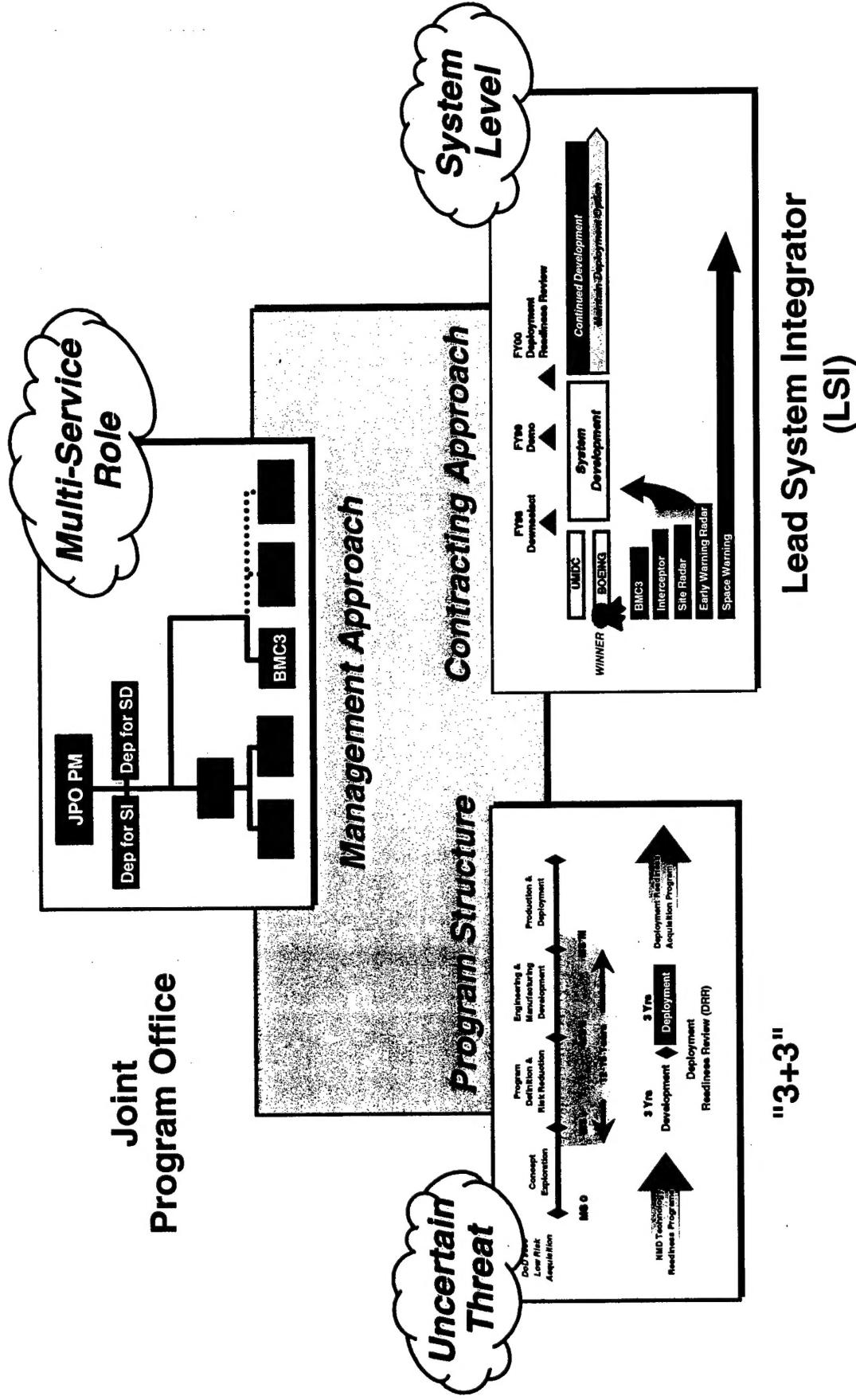


NMD ROADMAP



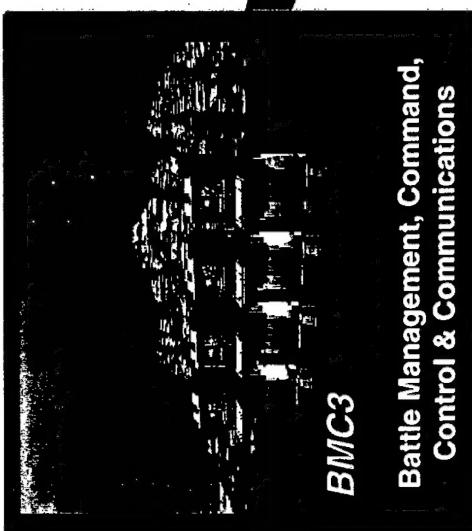
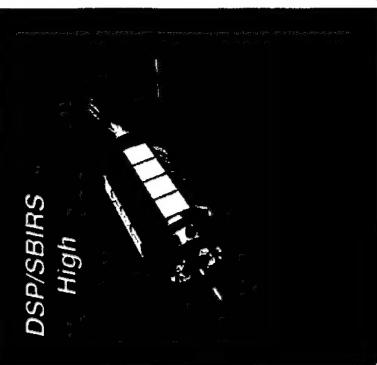


NMD PROGRAM STRATEGY

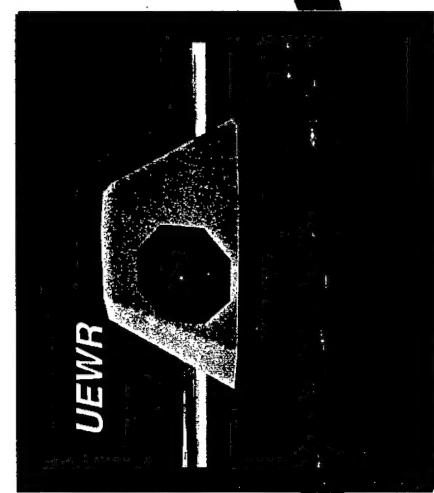
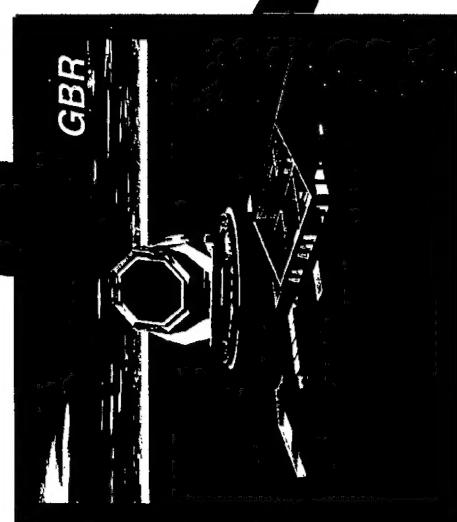




THE NMD SYSTEM ELEMENTS



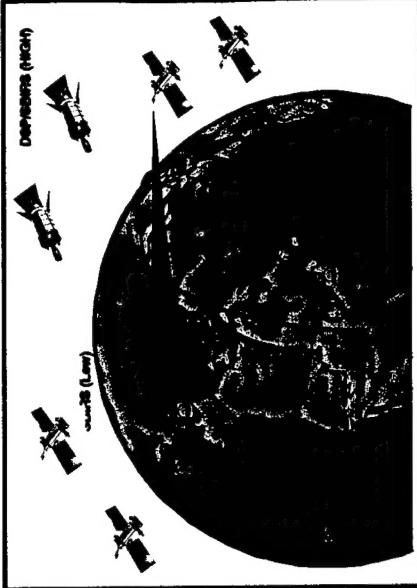
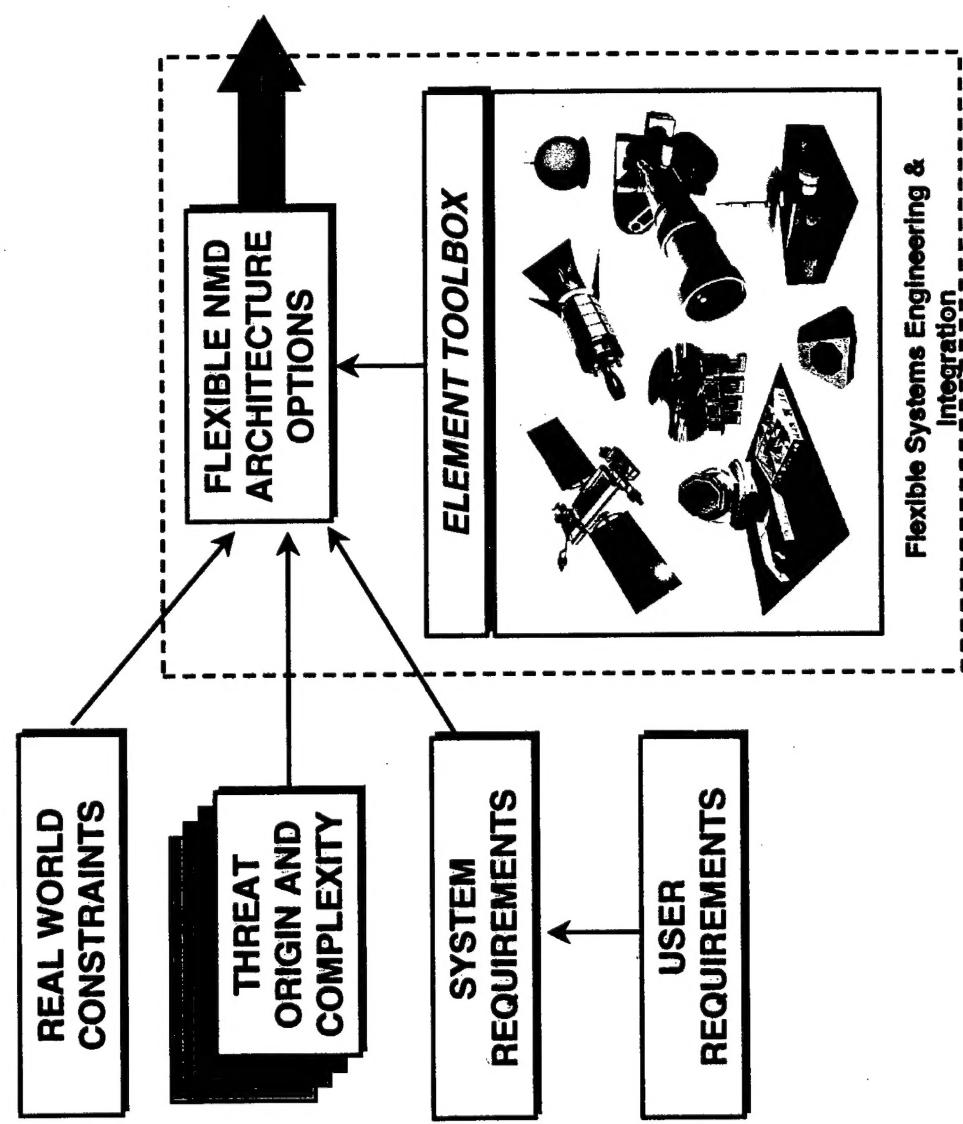
Battle Management, Command,
Control & Communications





NMD SYSTEM ARCHITECTURE

“Plug and Defend”



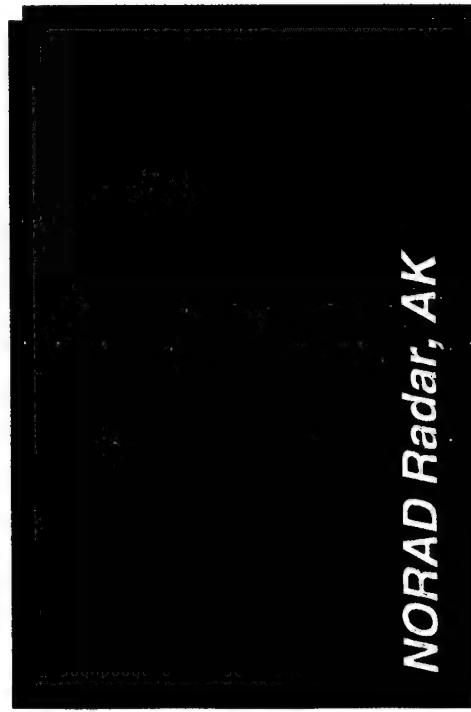
“Plug & Defend”
National Missile Defense
Deployment Options to Respond to Unknowns in Threat and Constraints

Flexible Systems Engineering & Integration

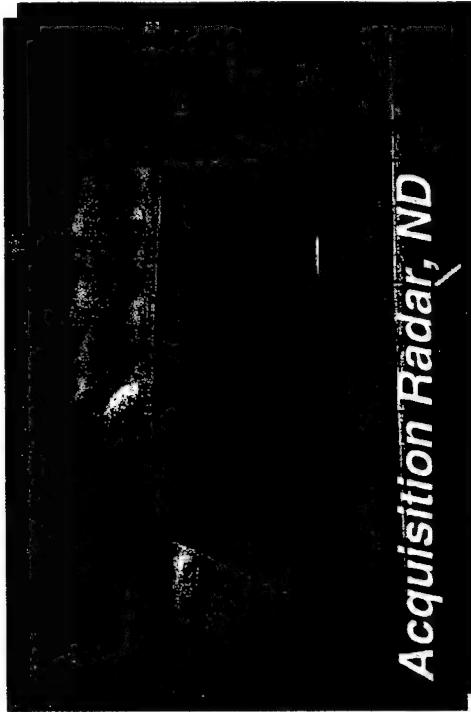


NMD SITE ACTIVITIES

- Fact Finding Visits Conducted in Both North Dakota and Alaska



NORAD Radar, AK



Acquisition Radar, ND

Next Activities:

Area Narrowing Visits to Support Environmental Impact Process

The Specific Architecture and Site will be Threat Driven - No Decision Yet



MANAGEMENT APPROACH JOINT PROGRAM OFFICE

Implement "3+3" Structure

- No Service Lead
(SPACECOM Supported)
- Federated Organization
- Direct Reporting
- Maximum Use of Prime

NMD
Program Manager

Deputy for
System Integration

System
Engineering

Prg Mgmt &
Control Office

Deputy for
System Development

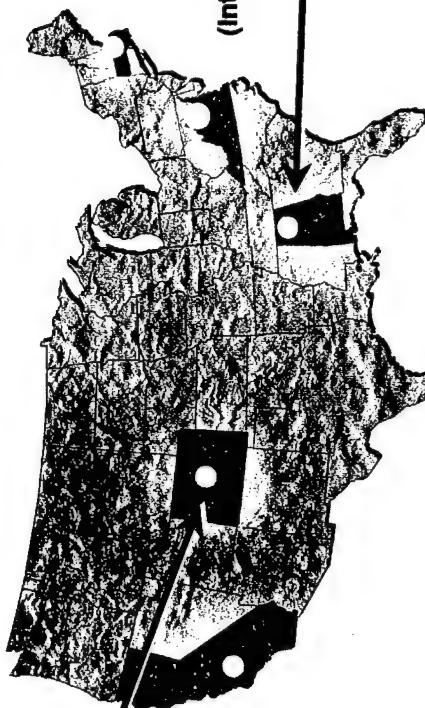
System
Deployment

System Test
& Evaluation

JPO Elements

Battle Management
Command, Control &
Communications

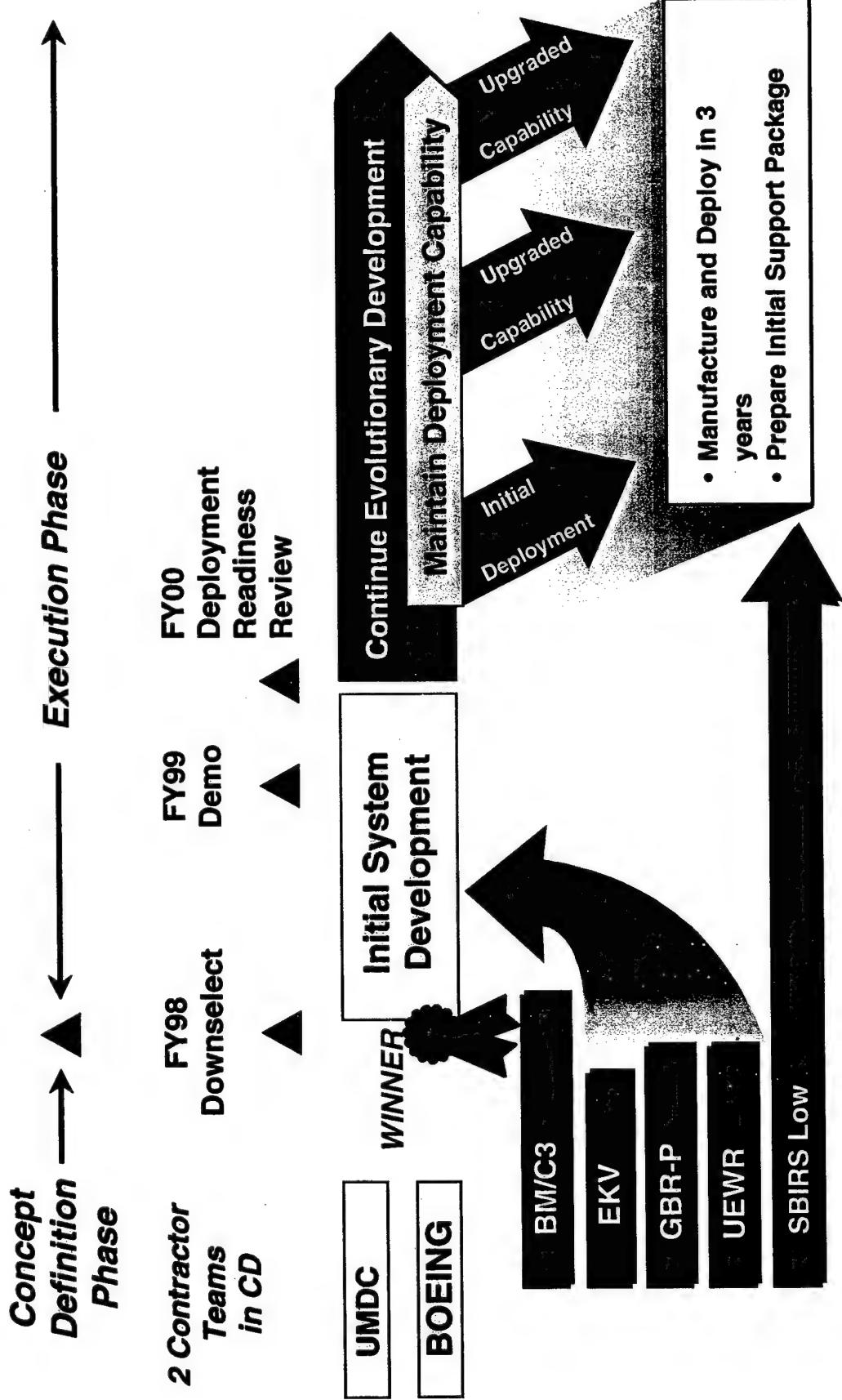
Joint National Test Facility
(BM/C3)



Electronic Systems Center
(Early Warning Radars; BM/C3)

Joint Program Office
(Integration; System Engineering; BM/C3)
Ground Based Elements PM
(Interceptor / Radar; BM/C3)

CONTRACTING APPROACH LEAD SYSTEM INTEGRATOR





BOEING TEAM

Company

- Boeing
- Xontech
- TBE
- Booz-Allen Hamilton
- Logicon
- Photon Research Association
- Ryan Associates
- Schafer
- SRS Technologies
- Raytheon
- TRW

Responsibilities

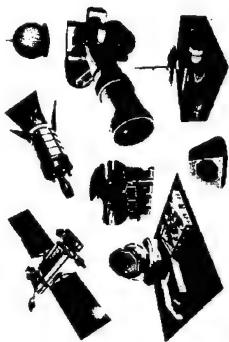
- Prime
- Sensors
- Test & Evaluation (T&E), System Eng (SE)
- SE, Battle Management Command and Control (BMC3), Test & Evaluation
- SE, Weapon
- SE
- SE, Sensors
- SE, Battle Management Command, Control & Communication, Test & Evaluation, Weapon
- Test & Evaluation, Weapon
- Radar
- Battle Management Command, Control & Communication



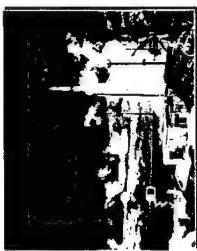
WHAT IS LSI PROVIDING?

Basic Period

Develops the
NMD Elements



Tests and
Demonstrates
NMD Capability



Plans the NMD
Deployment

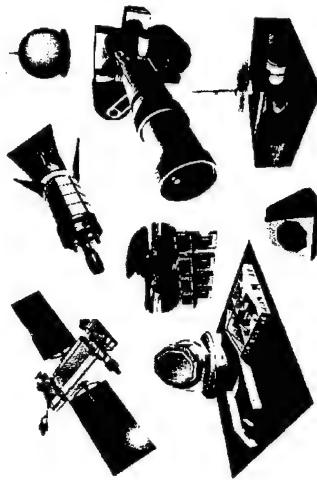
Deployment Option

Deploys the NMD System



Continuing Development

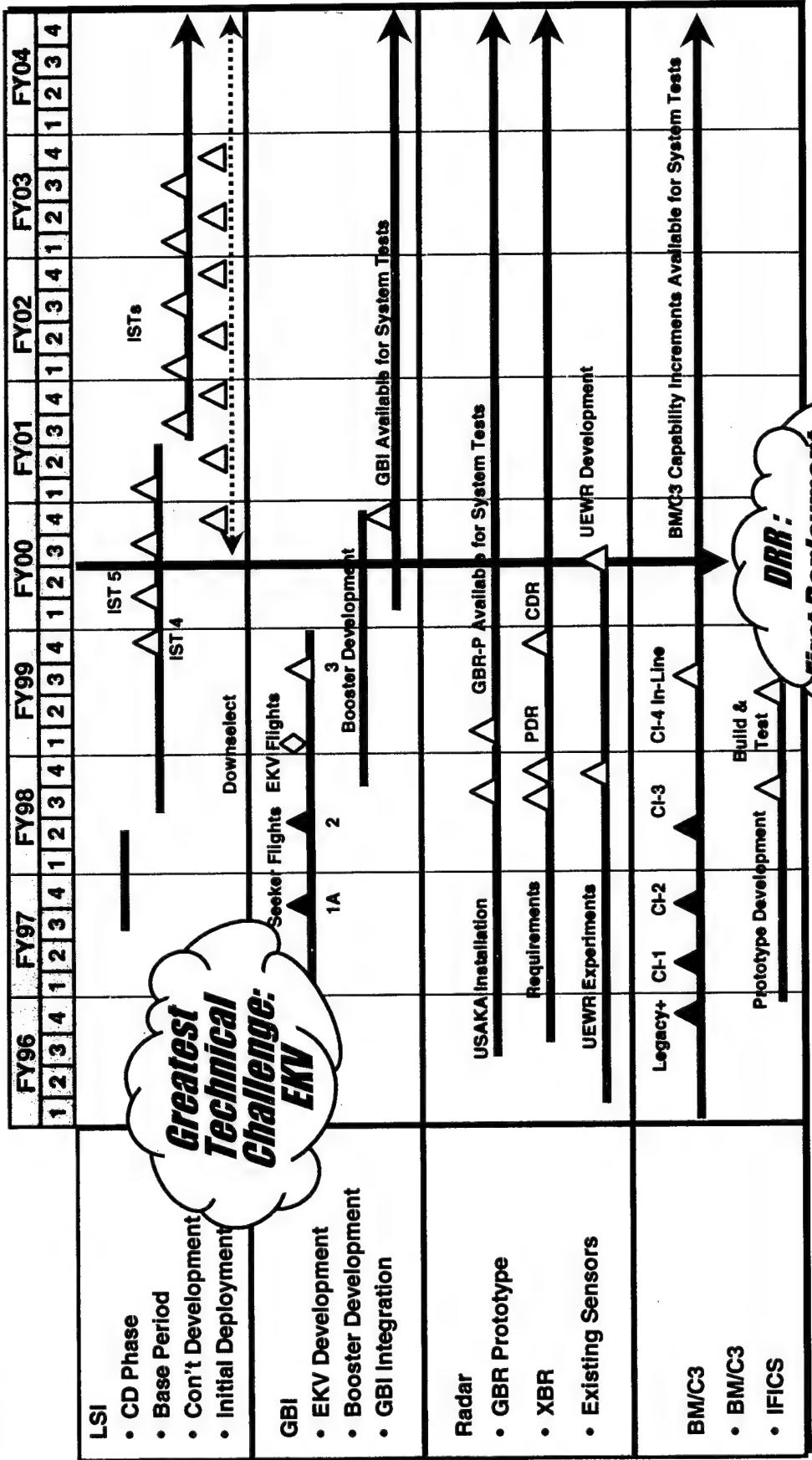
Maintains Deployment Readiness



Enhances NMD Capability Through Upgraded Elements



NMD PROGRAM SCHEDULE

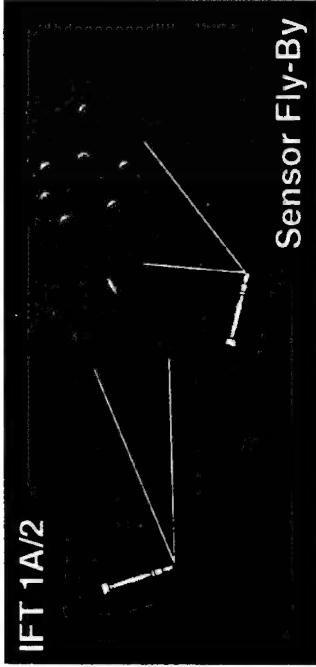




SYSTEM FLIGHT TESTS

Flights

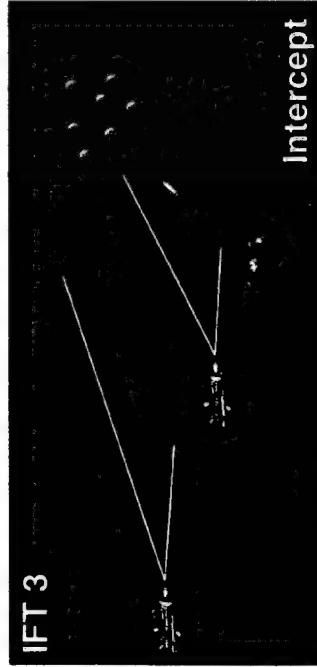
IFT 1A/2



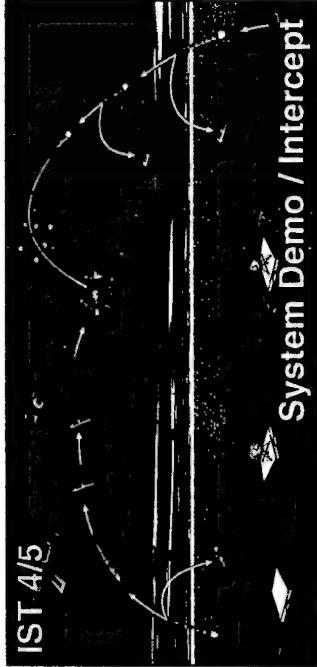
Program Objectives and Goals

- Risk Reduction for Kill Vehicle Tests
 - Demonstrate Kill Vehicle Sensor Performance
 - Collect Target Signatures to Validate Discrimination Algorithms
- Activate Test Infrastructure

IFT 3



IST 4/5



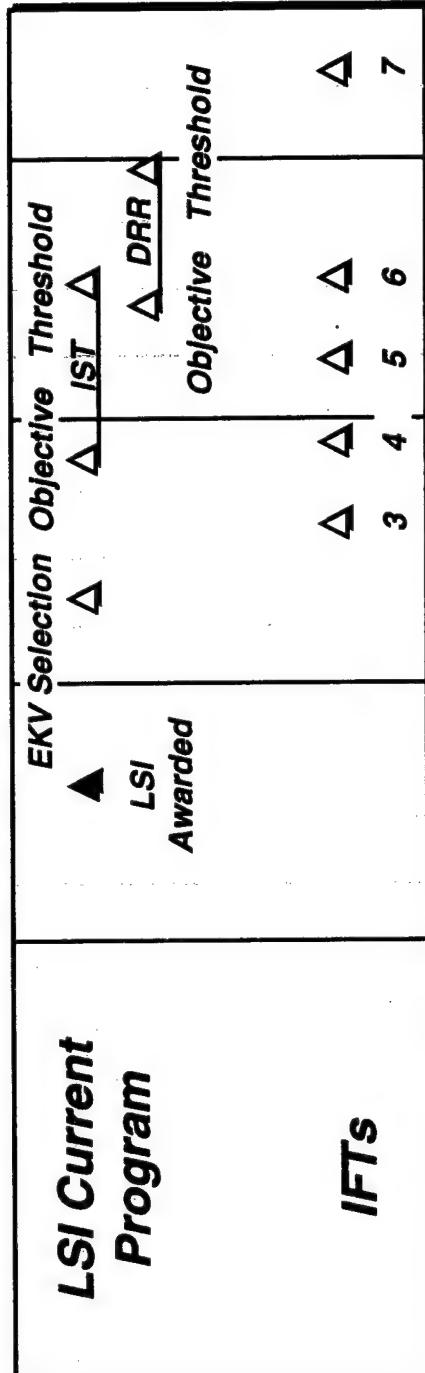
- Demonstrate Target Complex Acquisition
- Demonstrate Onboard Discrimination and Target Selection
- Demonstrate Endgame and Lethality Performance
- Demonstrate Interoperability of Elements

- Demonstrate End-to-End Integrated System Performance
- Demonstrate Endgame and Lethality Performance



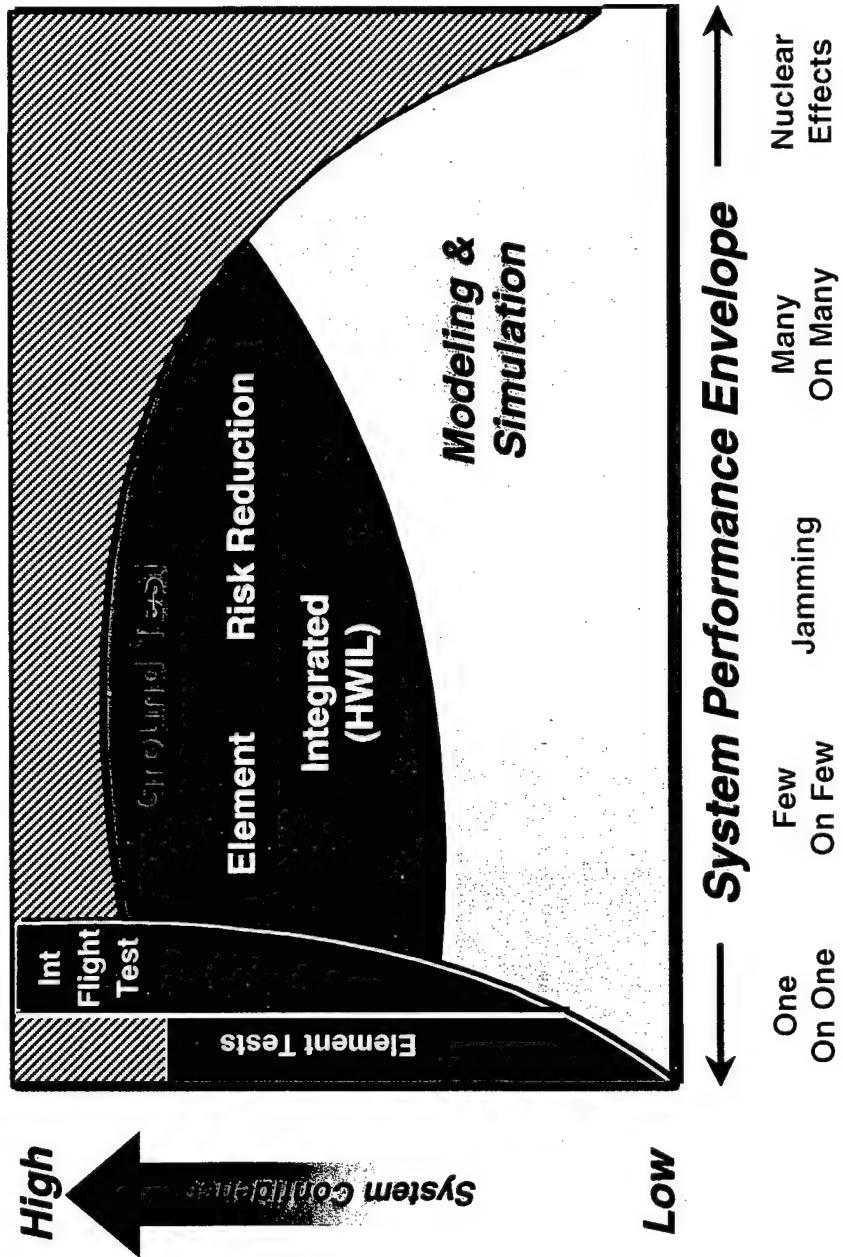
NMD FLIGHT TEST PROGRAM SCHEDULE

FY98				FY99				FY00				FY01	
1	2	3	4	1	2	3	4	1	2	3	4	1	2





ESTABLISHING SYSTEM CONFIDENCE

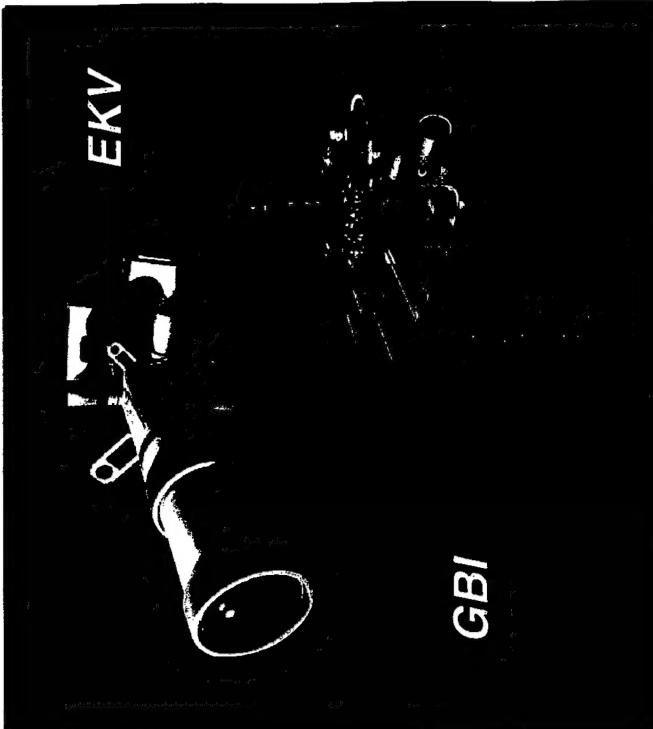


Evaluation of Test Results Establishes System Performance and Confidence Levels



MAJOR DECISIONS THROUGH NOV 98

- Government Select Ground Based Interceptor (GBI) Booster
- Refine Deployment Readiness Review Completion Criteria
- Exo-Atmospheric Kill Vehicle (Interceptor) Selection





MAJOR EVENTS THROUGH NOV 98



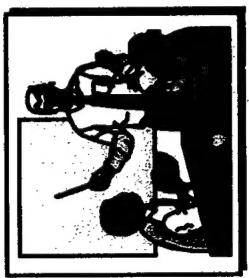
- System Functional Review
- Integrated Baseline Review
- Cost As An Independent Variable (Ongoing)
- Senior Department Review



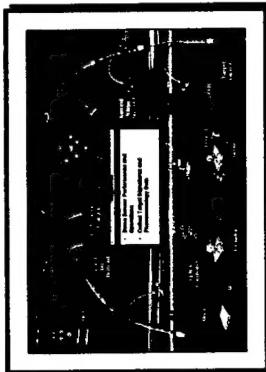
NMD PROGRAM ACCOMPLISHMENTS



National Missile Defense Joint Program Office



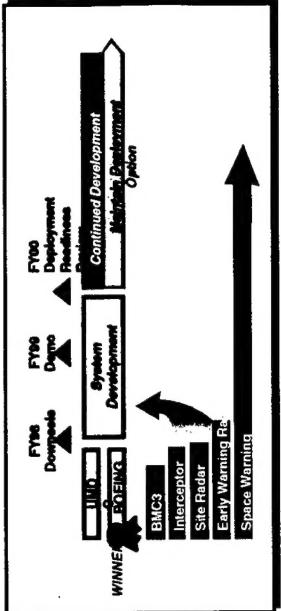
Defense Acquisition Board Process



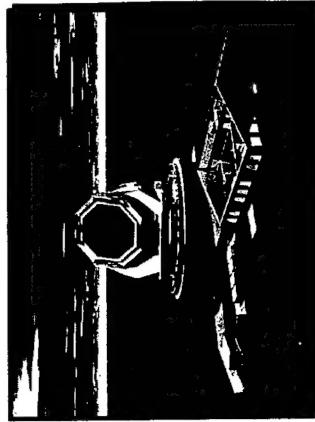
Integrated Flight Tests 1A & 2



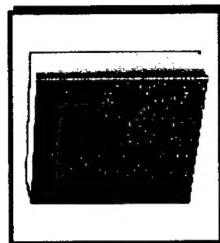
Battle Management Cmd, Ctrl, & Comm Capability Increment 3



Lead System Integrator - Contract Awarded



Construction at Kwajalein



System Requirements Documents

Site Planning and Visit



SUMMARY

- Uncertain Threat → Flexible Architecture
- Multi-Service Contributions → Joint Program Office
(No Service Lead)
- Stove - Piped Element Development → Lead System Integrator
- Compressed Schedule → High Concurrency

“3+3” Program
High Schedule Risk...
But Structured and Funded for Greatest Opportunity to Achieve Success